

## CLAIMS

1. Electromagnetic selection device of a two-stage planetary gear set (1) having one input shaft (2) and one output shaft (3), one sun gear (8), one ring gear (11), one planet carrier (10) with planetary gears (5), one transmission housing (6) and one sliding sleeve (14) for switching a first gear in which the ring gear (11) can be coupled with the housing (6) and a second gear in which the ring gear can be coupled with the sun gear, the sliding sleeve being displaceable by means of one electromagnet consisting of magnet coils (22, 23) and one armature (24), characterized in that the armature (24) is situated rotatably but axially fixed upon the sliding sleeve (14).

2. Selection device according to claim 1, characterized in that the armature (24) is designed as annular part and is fastened by means of one bearing (19) upon the sliding sleeve (14).

3. Selection device according to claim 1 or 2, characterized in that the magnet coils (22, 23) are located within the transmission housing (6).

4. Selection device according to claim 2 or 3, characterized in that the armature (24) has one outer and, axially offset, one inner slope (24a, 24b) with which can be coordinated one outer and one inner armature counterpart (26, 25), the armature slopes and armature counterpart forming each one sliding cone.

5. Selection device according to claim 4, characterized in that the angle  $\alpha$  of the armature slopes or of the cone amounts to about 3 degrees.

6. Selection device according to claim 4 or 5, characterized in that the armature slopes (24a, 24b) are delimited by annular front faces (24c, 24d) which act as stop surfaces for the terminal positions of the armature (24).

7. Selection device according to claims 2, 3 and 4 or 5 or 6, characterized in that the magnet coils (22, 23), the armature (24) with bearing (19) and sliding sleeve (14), the armature counterparts (25, 26) are accommodated in one magnet body (27) which is designed as front-mounted structural part (30) and can be inserted in the transmission housing (6).

8. Selection device according to claim 7, characterized in that on one front side (27c) of the structural unit (30) is situated one brake disc (18) provided with one inner coupling gearing (17) which together with the structural unit (30) is fastened in the transmission housing (6).

9. Selection devices according to any one of the preceding claims, characterized in that it has one electromagnetically actuatable locking unit with a fastening unit (29) and locking bolts which engage in grooves of the sliding sleeve (14) and retain the sliding sleeve in a switch position.